Date: Thu, 5 Aug 93 04:30:40 PDT
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>
Errors-To: Ham-Space-Errors@UCSD.Edu
Reply-To: Ham-Space@UCSD.Edu
Precedence: Bulk
Subject: Ham-Space Digest V93 #1
To: Ham-Space

Ham-Space Digest   Thu, 5 Aug 93   Volume 93 : Issue   1

Today's Topics:

* SpaceNews 02-Aug-93 *
Novatel Cell phone to 902 mhz.
ORBS$212.2liners
Satellite Tracking System (2 msgs)
SPACE TRIVIA LIST - 1st August 1993
Two Meter Transmitter for Phase 3D

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 30 Jul 1993 16:08:48 GMT
From: pravda.sdsc.edu!news.cerf.net!usc!math.ohio-state.edu!sol.ctr.columbia.edu!
destroyer!cs.ubc.ca!alberta!adec23!usenet@network.ucsd.edu
Subject: * SpaceNews 02-Aug-93 *
To: ham-space@ucsd.edu

SB NEWS @ AMSAT $SPC0802
* SpaceNews 02-Aug-93 *

BID: $SPC0802

=========
SpaceNews
=========

MONDAY AUGUST 2, 1993

SpaceNews originates at KD2BD in Wall Township, New Jersey, USA. It is published every week and is made available for unlimited distribution.

* STS-51 MISSION DELAYED *

Space Shuttle Discovery's STS-51 mission has been delayed once again when the Ground Launch Sequencer detected an unacceptably slow speed rate of a hydraulic power unit located inside the Shuttle's righthand solid rocket booster. Technicians at the Kennedy Space Center troubleshooted last weekend and a decision was made to remove and replace the hydraulic power unit and to retest the new system before proceeding with the next launch attempt.

A new launch date is still to be determined. Managers indicate that another launch may occur as early as this week.

[Info via NASA]

* MIR QSL NEWS *

The following is from Serge Samburov, RV3DR, the Mir Space QSL Manager.

Dear HAMs! TNX for your QSL.
I confirm your QSO and send to you
QSL from U_MIR (R_MIR) in March 1993:

1-14:VK3CFI,VK6IG,IW1QDZ,KI4TD,KT0H,K2CL,
N0MIR,W0SL,W2IFR,FC1OKN,IV3WLQ,4X4LF,KDX1A,
N2PKF.

I confirm your QSO and send to you
QSL from U_MIR (R_MIR) in April-May 1993:

15-61:SV2AGW,PE1MQC,K0SK,W2LRJ,OZ-OR 2197 (SWL),
ON7QD,ON4APB,KA3AFY,WG0I,N3KYP,WB8IMY,N2JNT,VE7VVW,
ZL2UYH,FC1CDC,G0PWU,5B4ZL,ON2AKJ,F11BYB(SWL),FE6DOK,
EB5IFI,VE5RC,N1FWV,N4QN,LU1MIK,LU1MHG,UA3IFI,ZS2ABF,
G3MFQ,N8KCG,KD4OJD,WN3Z,WA3LKT,WA3TNT,N1NEG,N2RBJ,K4PTB
N2PKF,DE1MSA,FC1GTU,SV8BEV,SV2BNY,14 ICC 666 (SWL),HB9RHV,
HB9SKA,PE1OKI,OH8UV.

I confirm your QSO and send to you
QSL from U_MIR (R_MIR) in June-July 1993:

62 N3KYP-from U6,U8MIR
63 N3NCS-from R2MIR
64 N7SUR-from R2MIR
65 W1AIM -from U5MIR
66 WA1UAY-from R2MIR
67 SM0IIN-from R2MIR
68 VE3UXQ-from R2MIR
69 OZ-DR 2197-from U6MIR
70 ON4ARJ-from R2MIR
71 IW0QEO-from U5MIR
72 VK2ASR-from R2MIR
73 W6NFD -from R2MIR
74 N0UVP -from R2MIR
75 KE5FK -from R2MIR
76 KC4YAU-from U6,U8MIR
77 N0NNK -from R2MIR
78 KQ4AV -from R2MIR
79 FC1SRH-from R2MIR
80 I4AYP -from R2MIR
81 CT1EAT-from R2MIR
82 WA9BVS-from R2MIR

I often receive your letters, which are opened. PSE send me well closed envelopes with your QSL. PSE send me IRC only from 01.01.1993, self-addressed envelope with your QSL. PSE send me letter. You can send me packet MSG: RV3DR@R2MIR-1 or RV3DR@RK3KP.MSK.RUS.EU.

Mir QSLs should be sent to:

RV3DR-Serge Samburov, Space QSL Manager
P.O.141070, BOX 73, Kaliningrad-10 city, Moscow Area,
RUSSIA.

or direct:

P.O.141070,Kaliningrad city, Moscow Area,
prospekt Cosmonavtov, dom 36, kw 96, RUSSIA

For South America, the QSL manager is LW2DTZ. His address is:

Gustavo Carpignano
M.Rosas 2044
1828 - Banfield
Buenos Aires - Argentina

BEST 73

Chief of Cosmonaut Amateur Radio Department NPO "Energia"
RV3DR

* JPL SPACE IMAGE INFORMATION *
==========
As a follow-up to last week's report concerning space images available from the Jet Propulsion Laboratory comes information concerning promotional materials available through the Educational Outreach Center, 818-354-6916. In particular, Peter McClosky, N6TGZ or Gil Yanow, the director of the Center, K6TOS can be contacted as they have educational material packets available for classroom and other similar uses.

Their complete address is:

Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, California 91103
U.S.A.

Space images abound on the Internet in many formats, although the Graphical Interchange Format (GIF) seems to be the most popular. Some anonymous FTP sites that carry space related GIF images include (but are not limited to):

ames.arc.nasa.gov
sseop.jsc.nasa.gov
pubinfo.jpl.nasa.gov
sunset.cse.nau.edu

Hopefully some of these sites will carry images taken by the Mars Observer after the spacecraft encounters Mars later this month and begins a 687 day study of the planet's environment during a full Martian year.

* THANKS! *
==========
Thanks to all those who sent messages of appreciation regarding SpaceNews, especially:

Kris Nosack KC1CO N3NFK KB4LCI KE5NU WA5FRF KD6MSM N6JLS

* FEEDBACK/INPUT WELCOMED *
==========
Mail to SpaceNews should be directed to the editor (John, KD2BD) via any of the following paths:

FAX : 1-908-747-7107

UUCP   : ...catfish.ocpt.ccur.com!ka2qhd!kd2bd
PACKET   : KD2BD @ NN2Z.NJ.USA.NA
INTERNET : kd2bd@ka2qhd.ocpt.ccur.com -or- kd2bd@amsat.org

MAIL   : John A. Magliacane, KD2BD
           Department of Engineering and Technology
           Advanced Technology Center
           Brookdale Community College
           Lincroft, New Jersey 07738
           U.S.A.

       <<=- SpaceNews: The first amateur newsletter read in space! -=>>

/EX

--
John A. Magliacane, KD2BD   * /\/\ * Voice   : 1-908-224-2948
Advanced Technology Center |/\/\/\| Packet : KD2BD @ NN2Z.NJ.USA.NA
Brookdale Community College |\/\/\/| Internet: kd2bd@ka2qhd.ocpt.ccur.com
Lincroft, NJ 07738   * \/\/ * Morse   : -.- -.. ..--- -... -..

Date: 4 Aug 1993 18:55:00 GMT
From: agate!usenet.ins.cwru.edu!lerc.nasa.gov!lerc.nasa.gov!news@ames.arpa
Subject: Novatel Cell phone to 902 mhz.
To: ham-space@ucsd.edu

     I am posting this request here as many satelite operators are also
vhf enthusiasts. I remember reading an article that said a gropu of hams at
NOVATEL had developed an eprom to convert the popular Novatel cell phone into
a 33 CM transciever. Does anyone remember this posting ar know how I can get
in touch with the NOVATEL ham radio group? Thanks George

Voice # 216-433-8473   "views expressed are personal
Ûfax#   216-433-6106   and not those endorsed by NASA"
packet   ke8yx@no8m.neoh.usa.na

Date: 30 Jul 93 19:37:31 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!usenet.ins.cwru.edu!magnus.acs.ohio-
state.edu!math.ohio-state.edu!sol.ctr.columbia.edu!destroyer!cs.ubc.ca!alberta!
adec23!usenet@network.ucsd.edu
Subject: ORBS$212.2liners
To: ham-space@ucsd.edu

SB KEPS @ AMSAT $ORBS-212.N
2Line Orbital Elements 212.AMSAT

HR AMSAT ORBITAL ELEMENTS FOR AMATEUR SATELLITES IN NASA FORMAT
FROM N3FKV HEWITT, TX   July 31, 1993
BID: $ORBS-212.N

DECODE 2-LINE ELSETS WITH THE FOLLOWING KEY:
1 AAAAAU 00 0 0 BBBBB.BBBBBBBB .CCCCCCCC 00000-0 00000-0 0 DDDZ
2 AAAAA EEE.EEEE FFF.FFFF GGGGGGG HHH.HHHH III.IIII JJ.JJJJJJJJKKKKKZ
KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

TO ALL RADIO AMATEURS BT

AO-10
1 14129U 83 58 B 93206.01517440 -.00000121 00000-0 99999-4 0   101
2 14129 27.1023 14.2310 6021479 100.2493 328.8974 2.05884636 76043
UO-11
1 14781U 84 21 B 93207.05508281 .00000234 00000-0 43864-4 0 4269
2 14781 97.8101 231.7332 0010594 232.4917 127.5328 14.69030856502420
RS-10/11
1 18129U 87 54 A 93209.49629287 .00000088 00000-0 89554-4 0 6353
2 18129 82.9209 208.0752 0010989 196.5739 163.5032 13.72320931305519
AO-13
1 19216U 88 51 B 93206.62846982 .00000111 00000-0 99999-4 0 6254
2 19216 57.8808 303.8211 7222740 320.4229   4.8494 2.09717309 39167
FO-20
1 20480U 90 13 C 93201.62045726 -.00000008 00000-0 98486-5 0 4516
2 20480 99.0326 51.4678 0541409 10.9621 350.2744 12.83220462161607
AO-21
1 21087U 91 6 A 93210.63265305 .00000085 00000-0 82656-4 0 8206
2 21087 82.9420 21.4116 0033930 263.5074 96.2198 13.74522565125277
RS-12/13
1 21089U 91 7 A 93207.07946854 .00000018 00000-0 12217-4 0 4116
2 21089 82.9224 253.2736 0028626 299.6709 60.1600 13.74024613123867
ARSENE
1 22654U 93 31 B 93205.94934774 -.00000049 00000-0 99999-4 0   131
2 22654   1.1916 122.7676 2935927 147.8536 237.2358 1.42201630 1113
UO-14
1 20437U 90 5 B 93200.26473020 .00000065 00000-0 33187-4 0 7588
2 20437 98.6135 284.1842 0011997 86.8343 273.4178 14.29782897182019
AO-16
1 20439U 90 5 D 93200.26347958 .00000047 00000-0 26013-4 0 5634
2 20439 98.6210 285.0949 0012487 88.0964 272.1649 14.29841825182028
DO-17
1 20440U 90 5 E 93200.31985796 .00000058 00000-0 30297-4 0 5653

```
2 20440  98.6215 285.3710 0012509  87.3715 272.8894 14.29978118182042
WO-18
1 20441U 90  5  F 93210.22582284  .00000054  00000-0  28684-4 0  5686
2 20441  98.6216 295.2027 0013101  61.2887 298.9611 14.29958954183464
LO-19
1 20442U 90  5  G 93210.22505746  .00000058  00000-0  30409-4 0  5654
2 20442  98.6219 295.3860 0013471  60.0285 300.2234 14.30049234183476
UO-22
1 21575U 91 50  B 93209.74914374  .00000063  00000-0  28344-4 0  2646
2 21575  98.4712 285.1895 0007252 167.9437 192.1925 14.36841017106634
KO-23
1 22077U 92 52  B 93206.06275607  .00000000  00000-0  99999-4 0  1080
2 22077  66.0764 244.8799 0002837 178.5049 181.5978 12.86279648 44714
NOAA-9
1 15427U 84123  A 93211.32721354  .00000099  00000-0  62779-4 0  4268
2 15427  99.0965 252.2487 0016003  48.6447 311.6065 14.13535123444879
NOAA-10
1 16969U 86 73  A 93211.39801714  .00000084  00000-0  44096-4 0  2693
2 16969  98.5158 225.1291 0012710 184.9629 175.1408 14.24824559356780
MET-2/17
1 18820U 88  5  A 93200.27227550  .00000024  00000-0  16339-4 0  8759
2 18820  82.5421 173.3941 0018665  38.2724 321.9757 13.84688369276288
MET-3/2
1 19336U 88 64  A 93208.38136731  .00000043  00000-0  99999-4 0   494
2 19336  82.5409 193.5064 0018693 358.2252   1.8814 13.16960282240505
NOAA-11
1 19531U 88 89  A 93211.36684977  .00000155  00000-0  93728-4 0  1770
2 19531  99.1341 188.0218 0011682 322.6953  37.3378 14.12901344249773
MET-2/18
1 19851U 89 18  A 93203.06277606  .00000053  00000-0  42196-4 0  8130
2 19851  82.5177  47.1178 0015955  73.4229 286.8683 13.84340304222014
MET-3/3
1 20305U 89 86  A 93208.79003080  .00000043  00000-0  99999-4 0  7231
2 20305  82.5537 136.2339 0017167  18.8483 341.3271 13.16021447180440
MET-2/19
1 20670U 90 57  A 93206.28493420  .00000051  00000-0  40666-4 0  5660
2 20670  82.5477 108.1367 0016581 350.7489   9.3363 13.84179610155390
FY-1/2
1 20788U 90 81  A 93210.81412156 -.00000259  00000-0 -16016-3 0  6066
2 20788  98.8625 235.8975 0015884 182.9019 177.2060 14.01301383148550
MET-2/20
1 20826U 90 86  A 93205.06017255  .00000033  00000-0  25111-4 0  5701
2 20826  82.5244  47.0530 0011924 249.7387 110.2501 13.83554751142381
MET-3/4
1 21232U 91 30  A 93210.36553160  .00000043  00000-0  99999-4 0  3739
2 21232  82.5307  37.9144 0016562 279.6116  81.4787 13.17111359108878
NOAA-12
1 21263U 91 32  A 93211.36207564  .00000191  00000-0  94516-4 0  6344
```

```
2 21263  98.6545 240.6640 0014077  88.3346 271.9441 14.22292810114786
MET-3/5
1 21655U 91 56  A 93210.44515692  .00000043  00000-0  99999-4 0  4431
2 21655  82.5514 344.6616 0013368 289.4389  70.5288 13.16823041 93988
MIR
1 16609U 86 17  A 93210.81908771  .00007546  00000-0  98148-4 0  2067
2 16609  51.6203   5.4136 0004148 263.8691  96.1866 15.58987373425780
HUBBLE
1 20580U 90 37  B 93210.67823012  .00000682  00000-0  57249-4 0  1548
2 20580  28.4681 150.4072 0004817 132.1464 227.9553 14.92774815177877
GRO
1 21225U 91 27  B 93207.74640736  .00024658  00000-0  16089-3 0  9496
2 21225  28.4542   8.1383 0005852  55.3608 304.7584 15.74246025  6350
TUBSAT
1 21577U 91 50  D 93204.24146351  .00000029  00000-0  16827-4 0  2689
2 21577  98.4712 279.3198 0005539 186.1160 173.9960 14.36385425105810
SARA
1 21578U 91 50  E 93211.22516422  .00000342  00000-0  12566-3 0  4388
2 21578  98.4772 288.0017 0005030 161.0696 199.0680 14.38485425106919
UARS
1 21701U 91 63  B 93200.01088054  .00003225  00000-0  30078-3 0  2503
2 21701  56.9851  53.9191 0005151 111.3468 248.8116 14.96716847101062
FREJA
1 22161U 92 64  A 93208.72179263 -.00000066  00000-0 -84977-5 0  1426
2 22161  63.0009  33.2780 0771331 286.3965  65.3656 13.21647893 38912
/EX
```

Date: 4 Aug 1993 15:56:04 GMT
From: pravda.sdsc.edu!news.cerf.net!usc!math.ohio-state.edu!magnus.acs.ohio-state.edu!flinxwei@network.ucsd.edu
Subject: Satellite Tracking System
To: ham-space@ucsd.edu

I am looking for the ABSOLUTE best tracking system for satellites (mainly the shuttle and OSCARs). What do people recommend for this. I will be running it on a 386DX (souped up, of course). Shareware would definetly be a nice feature.

Please send me any and all suggestions.

Thank you,
-e

Eric Linxweiler, N8UNN — President, W8LT
The Ohio State Univeristy — The OSU-Amateur Radio Club

W8ZR/R 442.6+

internet: linxweiler.1@osu.edu
packet: n8unn@w8cqk.#cmh.oh.usa.na
TCP/IP: 44.70.0.108
voice: 614/297-8042

Date: Thu, 05 Aug 93 03:01:31 GMT
From: usc!math.ohio-state.edu!magnus.acs.ohio-state.edu!cis.ohio-state.edu!mstar!
n8emr!gws@network.ucsd.edu
Subject: Satellite Tracking System
To: ham-space@ucsd.edu

In article <23om6k$70j@charm.magnus.acs.ohio-state.edu> flinxwei@magnus.acs.ohio-
state.edu (Eric Linxweiler) writes:
>I am looking for the ABSOLUTE best tracking system for satellites (mainly the
>shuttle and OSCARs). What do people recommend for this. I will be running it
>on a 386DX (souped up, of course). Shareware would definetly be a nice
>feature.

Best in what? Price? PD or pay.. User interface? a UI is more of a
personal choice than anything else. What do you want a graphical or
a numeric output. Size of machine is of little importance if you
just want the software to tell you when its within view. What antennas
will you be using, What OSCAR's? If your antenna has a 20deg
wide beam pattern and your working AO13 you want the antenna
pointing in the general direction. If you just want to hear
the suttle on your HT or scanner using a duck all you want is
something to tell you when the craft is in the area. I have not
purchased yet, but I like the track boxes that are out. I dont
want to waste my CPU to tell me when a sat is near, just flash a
light beep and pont my antennas.

--
Gary W. Sanders gws@n8emr.cmhnet.org, 72277,1325
N8EMR @ N8JYV (ip addr) 44.70.0.1 [Ohio AMPR address coordinator]
HAM BBS 614-895-2553 (1200/2400/V.32/PEP) Voice: 614-895-2552 (eves/weekends)

Date: Wed, 4 Aug 93 15:59:02 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!usenet.ins.cwru.edu!magnus.acs.ohio-
state.edu!math.ohio-state.edu!sol.ctr.columbia.edu!destroyer!cs.ubc.ca!alberta!
adec23!mark@network.ucsd.edu
Subject: SPACE TRIVIA LIST - 1st August 1993

To: ham-space@ucsd.edu

reisert@sttng.mlo.dec.com (Jim Reisert) writes:

>Does this really need to be posted here? What does it have to do with
>Ham Radio?

Well, Luke is making an effort to ensure only articles that have something to do with Amateur Radio in some way will be posted to rec.radio.amateur.space and rec.radio.info. I feel even if it is a small piece, that the AMSAT, ARIEN and SAREX boys et al will appreciate ... being that I have no Satelite experience or equipment, this group certainly should voice it's opinion on this matter!

The articles will have followups to sci.space, so discussion will not be so `active' in our quiet little groups :-)

If any of you feel that you have information about any of the space related programs that fit into the Trivia list, feel free to submit to Luke, this will certainly place Amateur Radio into the forefront, and improve our PR! Luke has expressed an interest in the above mentioned programs, so drop him a line!

Ciao -- Mark

Date: 2 Aug 93 02:34:01 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!usenet.ins.cwru.edu!magnus.acs.ohio-state.edu!math.ohio-state.edu!sol.ctr.columbia.edu!destroyer!cs.ubc.ca!alberta!adec23!ve6mgs!usenet@network.ucsd.
Subject: Two Meter Transmitter for Phase 3D
To: ham-space@ucsd.edu

SB SAT @ AMSAT $ANS-213.01
TWO-METER TRANSMITTER FOR PHASE 3D

HR AMSAT NEWS SERVICE BULLETIN 213.01 FROM AMSAT HQ
SILVER SPRING, MD AUGUST 1, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-213.01
2m Transmitter Announcement
AMSAT-UK MEMBER TO BUILD 2M TRANSMITTER FOR PHASE 3D

     In a joint statement issued at the recently completed AMSAT-UK Colloquium, Ron Broadbent, G3AAJ, Honorary Secretary of AMSAT-UK, and Ray Soifer, W2RS, Executive Vice President of AMSAT-NA, announced that a 2-meter downlink transmitter for the Phase 3D

satellite is to be designed and built by Mike Dorsett, G6GEJ, as part of the international Phase 3D project team. Mike, who met with project leaders including Karl Meinzer, DJ4ZC, and Dick Jansson, WD4FAB, last week in Marburg, Germany, to discuss technical details, described his proposed design at the Colloquium, held at the University of Surrey on July 29 to August 1, 1993.

Together with the 70cm uplink receiver already planned, this means that there will, indeed, be a Mode UV capability (formerly known as Mode B) on the new satellite. If all goes as expected, users of Mode B on AO-13 can look forward to improved performance from Phase 3D.

As soon as the need for a qualified builder became known some months ago, AMSAT-UK and AMSAT-NA worked closely together to identify and screen prospective candidates. Mike Dorsett, G6GEJ, is a well-known designer of high performance VHF/UHF equipment. He is a longtime member of AMSAT-UK and is doing this work strictly on a volunteer basis. Mike's strong technical background will be a welcome addition to the international Phase 3D project team.

/EX

Date: Wed, 4 Aug 1993 16:32:20 GMT
From: europa.eng.gtefsd.com!howland.reston.ans.net!vixen.cso.uiuc.edu!sdd.hp.com!cs.utexas.edu!utnut!utzoo!henry@uunet.uu.net
To: ham-space@ucsd.edu

References <EgJIave00UhWM3nn0_@andrew.cmu.edu>, <N4HY.93Jul28103032@tang.ccr-p.ida.org>, <CAzE8A.H7p@trystero.com>e
Subject : Re: SPACE TRIVIA LIST - 24th July 1993

In article <CAzE8A.H7p@trystero.com> quagga@trystero.com (Quagga) writes:
>Henry, it seems to me that Apollo 13 was in a slightly unique trajectory
>which did not allow for a "figure eight" sort of return to the Earth.
>
>Is my memory accurate on this?

Correct. The free-return trajectories used on the early Apollo missions limited the choice of landing site severely: it had to be very close to the lunar equator. Given that the desirable landing sites were mostly outside that area, and that the choice of trajectory was an issue only on the outbound leg -- when Apollo had no less than four different propulsion systems capable of fixing up a bad trajectory (CSM engine, two LM engines, CSM reaction-control system) -- the science-oriented missions starting with Apollo 13 generally did not use free-return trajectories. Apollo 13 was on a so-called "hybrid" trajectory, not

a free-return trajectory but close enough that a CSM RCS burn could
convert it into one.
--
Altruism is a fine motive, but if you | Henry Spencer @ U of Toronto Zoology
want results, greed works much better. | henry@zoo.toronto.edu utzoo!henry

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End of Ham-Space Digest V93 #1
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